NASA Stakeholders' Summit

September 15, 2010

Day Three Wrap Up

- The level of passion, energy, and synergy continued into Day III. The focus was on **"Opportunities and Obstacles in Attracting, Retaining, and Preparing STEM Talent from College to Career."**
- Diane Detroye served as the facilitator and introduced Lynn Cline, Deputy Associate Administrator for Space Operations, who provided an overview of the Space Operations Mission Directorate. Some of the points she covered included the significant contributions of NASA to things like climate change; final stages of outfitting the International Space Station, and the future of human exploration. She said we need to understand the environment we're going to be living in; we need innovation and new capabilities; and we need to nurture the pipeline. She then introduced Dr. Robert Braun, NASA Chief Technologist, who served as the keynote speaker.
- Dr. Braun provided personal information that described his journey to NASA. He told a story, which further confirmed the importance of inspiring and motivating students at a young age. He referenced how a neighbor took him to work one day at Goddard Space Flight Center, while he was quite young. It was a time when the Viking I successfully landed, which was a tremendous success for NASA because it was the first to land on a planet. And, it wasn't so much the science or engineering that stuck with him. It was the excitement, passion, and sense of accomplishment he saw in the NASA scientists and engineers. He grasped the excitement of teams and what they did for first- of- a- kind- things every day. This visit left a lasting impact on him and inspired him to want to do work that pertained to Mars. He later participated in several NASA programs that continued to fuel his inspirations and dreams. Bottom line is he saw innovative people, pushing the envelope, making mistakes, and learning.
- Dr. Braun came to NASA from Georgia Tech, working a job he absolutely loved. But he was given the opportunity to come to NASA and work toward rebuilding a Research & Development competency for a foundation to build future systems.
- There is a new line in the 2011 budget on Space Technology. It addresses broadly applicable technologies (multiple customers) and has 10 programs to be rolled out, which will be run in an open and competitive environment. To find out more, visit www.nasa.gov/OCT
- He stressed that the Mission Directorates' funding is focused on Mission Directorates' needs. However, the Space Technology Initiative will have a cross cutting function.

Panel Session

- George Cushman, Vice President, Hispanic College Fund and Hortense Burt, Education Director, Kennedy Space Center served as co-facilitators of the Panel Session, which focused on our theme –"**Opportunities and Obstacles in Attracting, Retaining, and Preparing STEM Talent from College to Career.** Panelists were Dr. Lorenzo Esters, Vice President, Office of Access and the Advancement of Public Black Universities

(APLU), Association of Land Grant Universities; Michael Kane, Chief Human Capital Officer, Department of Energy; Dr. Scott Starks, Director, University of Texas System Alliance for Minority Participation, University of Texas, El Paso; Dr. Alicia Washington, Assistant Professor, Howard University; Dr. Ginny Carney, President, Leech Lake Tribal College; and Dr. Annalisa Weigel, Jerome C. Hunsacker Assistant Professor of Aeronautics and Astronautics, Massachusetts Institute of Technology.

- Dr. Estes provided excellent information which dealt with the Minority Male Perspective. He reiterated President Obama's goal for higher education …every American with a quality higher education – whether it's college or technical training by 2020. America will once again have the highest proportion of college graduates in the world."
- He talked about APLU's goal, which is to raise tertiary attainment of the 25 to 34 year-old US population from 41% to 55% by 2025. 8.7 million more degrees are required to do so.
- Implication is that annual Associate and Bachelor degree production in US must go up by about 870,000. This is an increase of 42% over current levels.
- He talked about how increased graduation rates can make a difference and how we will get to 55% by 2025. He went on to show US rankings, future projections, disturbing graduation rates for males, as well as other statistics that are embarrassingly factual.
- The bottom line was that we must turn obstacles into opportunities. This can be done by the following:
    1) Believe that all students are capable of succeeding in STEM majors when provided the appropriate resources;
    2) Provide for the disaggregation of student outcome data by race and ethnicity;
    3) Develop a change strategy, which focuses on:
        a. Commitment of Senior Leadership;
        b. Vision and Buy-in from the community;
        c. Capacity Building; and
        d. Better Resource Leveraging.
- Recurring points and themes included: 1) Generation Y students are different; 2) If we understand them better, we can design engineering work and organizations that attract and retain them; 3) Exposure at an early age is critical; 4) We need to optimize effective interventions; 5) Students need to see people who look like them; 6) We must better expose women to STEM; 7) Students are intelligent and many are intellectually hungry; 8) Challenges include lack of role models, transportation, and poverty; 9) Focus must be dual – not just what's wrong with students, but what's wrong with the system; 10) Inclusion is critical – think about all kinds of diversity; and 11) Success is a longer road for MSIs.

Lunch Impact Discussions

Task: In your group, share a retention idea and give a take-a-way.

Ideas:

1) Educators Helping Young People Excel in their dreams (E-Hype) is an idea that promotes educators going an extra mile to help students define and get their dreams in motion. They have monthly meetings with tutorials on STEM. More K12 programs are needed.
2) Jackson State Education Resource Center offers various weekend programs for middle and high school students in the area of STEM (elementary students are allowed).
3) Generational difference talks can help in understanding Generation Y students. Generation Y students don't care how much you know, but rather want to know how much you care. Developing workshops for Generation Y addressing work ethics and corporate expectations could be helpful.
4) We should utilize the same faculty in the Community College as used in the four year institutions.
5) We need to develop relationships with research faculty. This will allow NASA an opportunity to tap into the faculty's student body.

Take-a-ways:

1) Knowledge can be powerful, but the transfer of knowledge is even more powerful.
2) We say that we value diversity, but we need to better demonstrate our commitment to it through our investments.
3) The universities and communities may want to advocate for NASA and activities they are interested in via their political officials.
4) We may want to reconsider resource allocations.
5) If you are going to be a social networker, you must stay current. Having a stagnant website does not help marketing efforts.
6) Remember to be inclusive. There are many types of diversity besides ethnic and gender (i.e. geographical, structural, and persons with disabilities).
7) We should rely on traditional strategies that work, as well as create new and innovative ones (i.e. consider new strategies for externships and plan initiatives that capture the STEM dissuasive).
8) Bring the same ingenuity to education programs that you bring to space programs.
9) It is an advantage that the chosen broker facilitators already have established credibility. They are shovel-ready and have relationships with the institutions, which should help them to move the process much faster.

Plenary Panel

The afternoon panel focused on, **"Institutional Solutions: Maximizing Access to Available Human and Fiscal Resources.** Dr. Sonya Greene, Director, Workforce Development, UNCF Special Programs Corporation and John O'Shea, Education Director, Dryden Flight Research Center served as co-facilitators. The panelists were Glenn Delgado, Associate Administrator for the Office of Small Business Programs,

NASA; Jennifer Byrne, Vice President, Corporate Engineering and Technology, Lockheed Martin Corporation; Linwood Smith, NASA Recruitment Manager, Langley Research Center; Dr. Larry Cooper, Science Mission Directorate, NASA; Dr. Andy Newton, Director, Hartnell Science and Math Institute, Hartnell College; Dr. Holly YoungBear-Tibbetts, Dean, College of Menominee Nation; and Dr. Yolanda Trevino, Assistant Dean, Graduate School, Indiana University, Bloomington.

Discussions centered on how small businesses can and should become integrated into the contracts arena. They can serve as subcontractors to big businesses and with training may be able to pursue primary contracts. However, many minority serving institutions (MSIs) do not know how to do the work, which deals with contract deliverables, technical transfers, accounting, etc. MSIs should find out more about the Mentor Protégé Programs, because contracts can open up a great revenue stream for these institutions. Further discussions were on traditional/non-traditional resources and how to maximize access to them; current and future ways of recruiting/hiring; and ways of promoting full and open competition.

Concurrent Roundtables on Human and Fiscal Resources

Recurring points and themes from the Academic Roundtable and the NASA/Industry Roundtable focused on: 1) Determining not only what's wrong with students, but also what's wrong with the system; 2) Culturally orienting our pedagogy; 3) Providing leadership commitment that is welcoming; 4) Assisting with student design projects through mentoring, providing internships, etc.; 5) Do outreach to local schools and keep it up; 6) Expose students and give them access; 7) Plant seeds at a young age; 8) Remember to think about diversity from a disability perspective; 9) Make stronger connections with community college students; 10) Need a campaign to effectively market for STEM (i.e. go back to things like film clips, movies, late night TV with students talking about solving a problem with an invention); 11) Need to bombard students and parents with inspiring and motivational awareness activities.

The NASA Education Stakeholders' Summit had over 300 participants, who came from NASA, other Federal Agencies, Academia, and Industry. The following summit objectives were met:

1. Shared important national policy initiatives for STEM education and workforce Development;
2. Communicated the President's agenda for NASA;
3. Placed OSSI in context of these national policies and strategy frameworks;
4. Enhanced the awareness of the OSSI Student On-Line Application for Recruiting Interns, Fellows, and Scholars System and the associated roles and benefits;
5. Provided forums for dialogue and feedback that might enhance NASA workforce development processes.

The summit was a great success, due to all who came and participated. OSSI went live on September 17, 2010 and we encourage everyone to visit and use the launch pad at http://intern.nasa.gov